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AQIM Handbook

Northern Border Truck Cargo

Introduction

Contents

Background

In order to properly monitor cargo, you need to have a good understanding of two key statistical principles:

1. It is important that the sample selected be representative of the universe. Random selection helps ensure this.
2. Once the sample is selected, it is necessary to inspect the sample thoroughly.

If you want your work location to produce quality risk information, then each person participating must have a clear understanding of the sampling universe, cargo strata and stratifying the sample, the unit of sampling, and consistency issues.

The Sampling Universe

You estimate the number and kinds of pests or improperly manifested items in a cargo entry pathway by taking a random sample from the universe of all cargo in the pathway. It is key to good statistics to carefully define this universe from which you want to draw your random sample. The following questions need answers in order to be able to select the sample correctly and make statistical inferences for the entire universe.

- How are commodities transported?
- How many commodities are arriving at a work location?
- What kinds of commodities are arriving?
- Are certain types of commodities of more interest to PPQ than others?

For AQIM, the universe is defined by the mode of transport of the cargo such as truck. Initially, PPQ has decided to limit the universe. The following commodities or commodity types will be **excluded** from the sampling universe:

- Commodities which are pre-cleared at foreign sites;
- Frozen commodities;
- Commodities which undergo some type of mandatory treatment, other than cold treatment (for example, fumigation, irradiation, hot water treatment) at work locations; and
- Oil, salt, iron ore, coal, etc., which have no pest risk.

Cargo Strata and Stratifying the Sample

The survey processes for AQIM were designed to be compatible with PPQ cargo inspection groupings. The surveys divide the cargo universe into several homogeneous and distinctly separate groups, in order to estimate the pest approach rates in each group.

By sampling a set number of samples from each cargo group, PPQ is able to get precise estimates of cargo containers with pests. It is then easier to make comparisons, which help the work location understand how effectively it manages the pest risk for cargo strata, as well as for the cargo universe.

The survey processes provide the sample sizes for each work location monitoring the pathway strata. Following is a summary of the stratified sample design and sizes in Northern border truck cargo:

Northern Border Truck Cargo	
Commodity	The following cargo categories are to be monitored in FY 2004, and sampling will take place at the ports of Blaine WA, Buffalo NY, Detroit MI, Port Huron MI, and Rouses Point NY: **Commercial Plant Perishable Agricultural Cargo** (This category is defined as any commercial formal or informal entry of fresh fruit, vegetables, plants or other non-processed or not refined plant product that is perishable. **Reefer Equipped Containers (Includes whether reefer unit is running or not)**
Sample Size	For **Commercial Plant Perishable Agricultural Cargo,** select six (6) trucks per week per port. (This excludes Brass released cargo and mandatory treatmetn cargo.) For **Reffer Equipped Containers (Includes whether reefer unit is running or not),** select six (6) random samples per week per port for checking compliance.
Inspection Methodology	For **Commercial Perishable Agricultural Cargo**: 1. Inspect cargo using appropriate AQIM hyper geometric inspection procedures for each sample. 2. Record all needed data on appropriate FY 2004 AQIM data worksheet For **Reefer Equipped Containers (Includes whether reefer unit is running or not)**: 1. This excludes the reefers of plant perishables already monitored in the above category. (Note: Inspection of this cargo can be predominantly tailgate, with occasional climb in or de-van, **as long as the inspection satisfies the inspector the cargo is what documents state**.) 2. Need to monitor primarily for smuggling of agricultural and other prohibited items. 3. Record all needed data on appropriate FY 2004 AQIM data worksheet

It is very important that each sample selected be representative of all other units in the stratum being sampled. One way to ensure that the sample is representative is to choose a truck at random (either random

time, or random number). This random selection process eliminates the bias of the officer selecting the sample. The officer's experience (bias) might lead to choosing a truck that is carrying a commodity that is more likely to be harboring a pest. This bias would make the sample not represent the entire stratum of trucks. The monitoring results would be skewed toward those commodities likely to harbor a pest. This kind of bias would hamper the work location's ability to make the best decisions based on risk analysis.

What is Not Part of the Sampling Universe

For the time being, pre-cleared cargo will continue to be left out of the sampling universe for all categories. Also, frozen commodities and commodities that undergo mandatory treatments at work locations, other than cold treatment, are left out of the sampling universe for now. Other bulk commodities, such as, oil, iron ore, salt, and coal, that have no possibility of pest risk associated with them are also not part of the sampling universe.

Setting Up a Process

Setting up a process of selecting representative samples in each group will be one of the biggest challenges in AQIM. Because each work location has its own unique set of circumstances in cargo operations, the work location must individualize its random sampling process. It will be necessary to document the process and ask for feedback from other work locations and headquarters staff who have experience in selecting random samples in the cargo environment. Work locations may even decide that this particular part of the monitoring is important enough to form a Northern Border Risk Management Team to review the random sampling process on a regular basis.

The Unit of Sampling

For Northern border truck cargo, the sample unit is a truck box, not including the cab. It is crucial that the sample unit is inspected closely enough to detect any actionable pests or improperly manifested items. Summary inspection procedures for Northern border truck cargo begin on **page 8-7**. The procedures must be followed exactly in order for the monitoring estimates to be valid, and useful.

Consistency of Data Collection

It is crucial that the monitoring results from the inspection of a random sample unit are recorded accurately and consistently. Because each sample represents many other units, all officers must be as consistent as possible in following the inspection procedures.

The group containing regulated commodities pose a special challenge. If the sample selected is a regulated commodity, it is important to understand the following:

Cargo monitoring estimates the number of trucks approaching the work location with pest infestation levels requiring action by PPQ. AQIM uses risk-based inspectional procedures for detecting 10 percent pest infestation rate. This initial threshold is used to estimate the number of trucks approaching a work location and to mitigate a pest threat.

NOTICE

This 10 percent infestation level may change as the data for AQIM is collected and analyzed.

To be 95 percent sure that the officer inspecting the sample truck will find the pest, when the shipment is infested at a 10 percent infestation level, the officer must select, at random, a specific number of boxes in the shipment. Determine this number of boxes by using the hypergeometric table illustrated in **Table 8-1**. Each of these boxes must be inspected at a level of intensity to ensure that:

- No hitchhiker pests are present in the box,
- No internal feeding insects are present in randomly selected fruit in the box, and
- No mismanifested or smuggled items are present.

TABLE 8-1: Hypergeometric Table For Random Sampling

Total number of boxes on the truck:	Randomly Select This Number of Boxes to Inspect:
1-10	10
11-12	11
13	12
14-15	13
16-17	14
18-19	15
20-22	16
23-25	17
26-28	18
29-32	19
33-38	20
39-44	21
45-53	22
54-65	23
66-82	24
83-108	25
109-157	26
158-271	27
272-885	28
886-200,000	29

Officers should follow normal inspectional procedures of fruits or vegetables to make these determinations. For example, officers should cut fruit to detect internal feeders if external evidence is present.

AQIM provides information about the relative risk of various entry pathways. To do this, the AQIM activities will follow a qualitative risk assessment model (see **Figure 1-2**). The survey analysts will "plug into the model" the estimated number of specific actionable pests identified in the samples. Therefore, when an officer is inspecting a regulated sample shipment for AQIM, the officer needs to inspect every box required by the hypergeometric table (refer to **Table 8-1**). Also, the officer needs to count how many pest specimens are actually observed and record this number on PPQ Form 309, Pest Interception Record.

For the relative pathway risk model to be useful, all officers doing the monitoring at all work locations must report the number of pest specimens accurately and consistently. It is necessary to follow the inspection guidelines, sampling processes, Epi Info User Guides, and sampling protocols.

Northern Border–Truck Cargo Procedures Summary

Use the summary of procedures for Northern Border—Truck Cargo as

an aid when sampling and inspecting commodities for AQIM.

LAND-BORDER TRUCK CARGO UNIVERSE PROCEDURES SUMMARY	
Category	The following cargo categories are to be monitored in FY 2004, and sampling will take place at the ports of Blaine WA, Buffalo NY, Detroit MI, Port Huron MI, and Rouses Point NY: **Commercial Perishable Agricultural Cargo** (This category is defined as any commercial formal or informal entry of fresh fruit, vegetables, plants or other non-processed or not refined plant product that is perishable. **Reefer Equipped Containers (Includes whether reefer unit is running or not)**
Strata Definition	All trucks carrying non-frozen cargo regulated or non-regulated. EXCEPT: *Commodities receiving a mandatory treatment other than cold treatment at Port of Entry, and empties.*
Sample Size	For **Commercial Plant Perishable Agricultural Cargo,** select six (6) trucks per week per port. (This excludes Brass released cargo and mandatory treatmetn cargo.) For **Reffer Equipped Containers (Includes whether reefer unit is running or not),** select six (6) random samples per week per port for checking compliance.
Sample Selection	At port discretion, random time, skip intervals, etc.
Inspection Methodology	For **Commercial Perishable Agricultural Cargo**: Each truck requires a physical inspection at port or consignee premise. Boxes with agriculture items will be selected for inspection from random locations throughout the truck to detect a *10 percent level of infestation (95 percent confidence)*. The number of boxes shall be set using the **Table 8-1**. Entire contents of boxes selected and available floor space of the container shall be inspected for pests or mismanifested or smuggled items. For **Reefer Equipped Containers (Includes whether reefer unit is running or not)**: 1. This excludes the reefers of plant perishables already monitored in the above category. (Note: Inspection of this cargo can be predominantly tailgate, with occasional climb in or de-van, **as long as the inspection satisfies the inspector the cargo is what documents state**.) 2. Need to monitor promary for smuggling of agricultural and other prohibited items. 3. Record all needed data on appropriate FY 2004 AQIM data worksheet.
Other Issues	1.Most inspections will be conducted during normal business hours at the port. 2.Ports need to advise shippers, importers, and brokers that low level random sampling and inspection will be part of day-to-day operations. They should understand that there is a small probability that their shipment will be intensely inspected.

Pathway Monitoring Maintenance and Quality Assurrance

Port managers and local AQIM coordinators are responsible for ensuring that monitoring activities are being performed and being performed properly. To help with reviewing the status of monitoring activities, refer to **Appendix L—Pathway Monitoring Maintenance** This appendix contains a checklist of questions port managers and local AQIM coordinators should periodically answer to ensure proper monitoring of each designated pathway at their work locations. See **Figure L-1**

The questions review the following topics:

- Random sampling
- Proportional sampling
- Adequate sampling
- Accurate and complete data
- Working risk committees
- Local support

Northern Border–Truck Cargo Worksheet

There is one worksheet for recording information gathered from your inspection of Northern border–truck cargo for the purpose of AQIM. The stratum represents cargo of PPQ interest and on-line release.

The worksheet is printed on the following page so you can remove, photocopy, and reuse it. It is also available on disk; contact your local AQIM coordinator.

The worksheet is also available as a fillable form; go to:

http://www.aphis.usda.gov/ppq/manuals/pdf_files/AQIM_in_PDF/Northern_Border_Cargo.pdf

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AQIM Handbook

Northern Border—Truck Cargo

Data Collection and Maintenance

Introduction

Traditionally, PPQ based our work on the quantity of quarantine material intercepted. We inspected cargo, found pests, and tallied them to justify good job performance. AQIM emphasizes work efforts based on the potential threat posed by foreign pests and quarantine material.

Regular baseline AQIM will be incorporated as a part of PPQ's ongoing operations at work locations. Inspection time will vary depending on the strata and on the commodity.

Every staffed PPQ work location needs to be involved in the AQIM process.

The expected results are that PPQ will have results-monitoring systems in place that will meet the needs of management and the requirements of the GPRA.

NOTICE

When first using Epi Info thoroughly read the user guide to become familiar with entering data into each of the data fields.

Epi Info User Guide for Data EntryNorthern Border–Truck Cargo

General Instructions

At completion of **each data entry** session make a back up of data records file, **CGMNBG.REC**, file to a computer disk. See **Appendix G** for procedures for backing up monitoring data.

1. Press [**CAPS LOCK**] (to ensure typing capital letters).
2. Be sure to start at C:\prompt. Epi Info is a DOS program.
3. Change to the Epi Info directory. Type **CD EPI6** then Press [**ENTER**].
4. Start Epi Info program. Type **EPI6** then Press [**ENTER**].
5. Wait several seconds, the Main Menu will appear with the word Program highlighted.

6. Press [**P**] (to list Program Menu).
7. Press [**N**] (to choose ENTER from Program Menu).
8. Cursor should be in the space below the phrase "Data file (.REC)".
9. Type **CGMNBG** in the space the cursor is in.
10. Press [**ENTER**] **3 times** (to load files for data entry).
11. Data entry screen for Cargo Strata should appear.

Help Statements

Read the following help statements before entering data:

- Each data entry screen represents only one monitoring inspection. After correct data entry is made and saved, this becomes a record for that one inspection.
- Some data fields will automatically advance the cursor after entering data. Some require pressing [**ENTER**] to advance the cursor after entering data.
- Some data fields will be skipped depending on the strata.
- Data entry messages and valid data values for each data field appear at the bottom of the screen or by pressing [**F9**].
- If an error is made and the cursor has left the data field, use the Up (↑) and Down (↓) arrow keys to move from field to field in order to make changes or corrections to data fields already entered.

Enter Data

Read the following as you enter data to become familiar with each of the fields.

Port—You should not have to enter data in this field. This field is automatically filled in, if not contact the local AQIM Coordinator.

Crossing—-You should not have to enter data in this field beyond the first record. This field is automatically filled in, if not contact the local AQIM Coordinator.

BDRRECNUM—This field is automatically assigned by the computer.

Cargo Type—You should not have to enter data in this field. This field is automatically filled in, if not, contact your local AQIM Coordinator.

Cargo Refrig—Enter response circled on the data form.

Entry Size—Enter truck size circled on the data form.

Strata—Must enter data. Press [**F9**] to open window of valid strata names. Use Up (↑) and Down (↓) arrows keys to highlight correct choice. Press [**ENTER**] to select this strata.

Cargo Category—Record the appropriate category of cargo that is being inspected: regulated or unregulated.

FOR STRATA 1: **Cargo Refrig.:** Record if the cargo is under refrigeration.

FOR STRATA 1: **Entry Size:** Record the entry or truck size, as it relates to the cargo. Choose either > 20 ft. Or < 20 ft. Press [**F9**] to open window with these choices. Use Up (↑) and Down (↓) arrows keys to highlight correct choice. Press [**ENTER**] to select the size.

Date—Must enter data. Enter date of inspection from data form in MM/DD/YYYY format.

Consignee—Record the consignee of this shipment.

Carrier—Must enter data: Enter trucking line/company, spell names completely.

Cargo Origin—Record origin of the cargo; for Canadian origin, record the Province name. Must enter data. Press [**F9**] to open window of valid origin names. Type the first and second letters of country name in order to scroll down the list faster. Use Up (↑) and Down (↓) arrows keys to highlight correct choice. Press [**ENTER**] to select this origin.

OrgnCode—You should not have to enter data. This code is entered automatically.

Destination—Must enter data. Press [**F9**] to open window of State codes. Type the first letter of the State name in order to scroll down the list faster. Use Up (↑) and Down (↓) arrows keys to highlight correct choice. Press [**ENTER**] to select this destination.

Manifest As—Must enter data. Record up to 3 cargo item(s) as they appear on the on the manifest or entry documents. Spell out all words.

Description Group—Enter the code representing the general group of the cargo. The cargo description groups are listed at the bottom of the data form. If the cargo does not fit in any group listed or is unknown, then use OTHR.

Cargo Count (Num)— Record the amount of cargo units (boxes, cartons, bags, etc.).

Cargo Weight (KG)—Record the amount of cargo by recording the weight in kilograms.

Amt. Insp. (Num)—FOR REGULATED CARGO ONLY!! Record the amount of cargo sampled and inspected by recording the number of singular units inspected (boxes, bags, etc.)

Inspection Method—Enter the inspection method code recorded on the data form: HG, OEC, OPC, or TGT.

Solid Wood Packing (SWP)—Must enter data. Enter either [**Y**](yes) or [**N**](no):

- If Y: cursor will proceed to next data field.
- If N: then cursor will jump to the 'Required Action Beyond Inspection to Reduce Risk'

SWP Type—Enter Dunnage, pallet, crating, or other.

Was Bark Found on SWP—Enter either [**Y**](yes) or [**N**](no).

Amount of SWP Inspected %—Enter percentage recorded on data form.

SWP Fumigation or Other Treatment presented—Enter either [**Y**](yes) or [**N**](no).

Required Action Beyond Inspection to Reduce Risk—Must enter data. Enter either [**Y**](yes) or [**N**](no):

- If Y: cursor will proceed to next data field.
- If N: then cursor will jump to the bottom of the screen asking the question: "Write data to disk (Y/N/<Esc>)?." If data entry is correct and complete, answer [**Y]** to this question and the data screen will renew for the next record entry.

1. **Intended Use of Cargo**Record the intended use of the cargo.
2. **Action Pest**Record if actionable pest(s) were found or not. Enter either [**Y**](yes) or [**N**](no):

- If Y: cursor will proceed to the next data field.
- If N: then cursor will jump to "3. Contaminant Found?"

Cargo Item—Record the cargo item that the pest was found on, include cargo conveyance as an option if appropriate. NOTE: When recording:

- Use the singular form (except for leaves)
- Use precise descriptors: fresh, dried, frozen, etc.
- Describe using common English names if possible
- DO NOT use the general descriptors **cucurbit, bean, or rubus sp.** Break these down to more detailed items, if possible.

Pest ID—System will automatically enter NONE (for no pest found). Record the identified pest name (genus/species).

Pest Intercep. Num.—System will automatically enter NONE (for no pest found). Enter the pest interception number assigned to the pest. This number maybe assigned later or by another office. If pest interception number assignment is delayed, then enter the letters: TBA (To Be Assigned.) Remember to update this data field with the pest interception number.

Where found:WFA—Record where the pest was found in relationship to the container/conveyance that the cargo arrived in: EXT, TGT, RR, FR, or SWP. See the bottom of the data form for description of codes.

WFA—A second field for 'where pest was found' if pest is found in more than one of the locations listed.

Cont (Continue)—

- Press [**Y**] if additional pests and cargo items ARE to be entered, Press [**ENTER**] to leave field and continue on.
- Press [**N**] if no other items are to be entered in this record. Cursor will jump to "3. Contaminant Found?".

3. **Contaminant Found?**Must enter [**Y**](yes) or [**N**](no) to indicate if a contaminant was present with the cargo. **If yes, be sure to enter the contaminant information after answering next data field.**
4. **Agr. Item Mismanifested/Smuggled?**Must enter [**Y**](yes) or [**N**](no) to indicate if any mismanifested or smuggled items were found with the cargo.

- If **Y**: then cursor will proceed to next data field.

- If **N**: then:
  - if Yes to previous Contaminant question, cursor will move to the next data field,
  - if No to previous Contaminant question, cursor will jump to the bottom of the screen asking the question: "Write data to disk (Y/N/<Esc>)?" If data entry is correct and complete, answer [**Y**] to this question and the data screen will renew for the next record entry.

Contaminant/Item—

- If Contaminant: record the contaminant name and the item it's associated with, i.e., manure on truck, soil on yams, etc.
- If Mismanifest/Smuggled: record the items found.

CntRecord the amount in singular units (boxes, cartons, bags, etc.) if appropriate.

Wght, KG—Record the amount of listed contaminant/item in kilograms. Record best "accurate estimate," if necessary.

Prohibited—Record if contaminant/item is prohibited due to regulations or quarantine.

Where found:WFA—Record where the contaminant/item was found in relationship to the container/conveyance that the cargo arrived in: EXT, TGT, RR, FR, or SWP. See the bottom of the data form for description of codes.

WFA—A second recording for 'where contaminant/item was found' if found in more than one of the locations listed.

MO—Do not enter data in this field. This field is filled in automatically with the numeric value of the month. This field is used for analysis purposes.

Cont (Continue)—

- Type [**Y**] if additional pests and cargo items ARE to be entered, Press [**ENTER**] to leave field and continue on.
- Type **[N]** if no other items are to be entered in this record. Cursor will jump to "Write data to disk (Y/N/<Esc>)?"

Write data to disk (Y/N/<Esc>)—

- Type **[Y**] if data entry is complete for this record. Record will be saved to the record's file.

- Type [**N**] if you wish to make changes or corrections to the record field. After making changes or corrections remember to return the cursor to the last field of form (Going To Work On Farm.), and Press [**ENTER**] to return to the prompt "Write data to disk (Y/N/<Esc>)?"

When finished with data entry—

- Press [**F10**] to return to Main Epi Info menu.
- Press [**F10**] again to leave Epi Info and return to regular computer menu.

Data Accuracy Checks and Data Corrections

[To Be Developed]

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AQIM Handbook

Northern Border—Truck Cargo

Data Analysis

Survey Results and How To Use Them

AQIM activities have been put into place to develop baseline data to help answer two basic questions:

1. What is the threat of agricultural pests approaching work locations?
2. How effective is the AQI program at managing this threat?

Results of surveys for Norther border truck cargo provided a general answer for question 1. There are varying rates at which prohibited agricultural materials and pests approach the work locations. These prohibited agricultural materials are what can have agricultural pests.

Further analysis of the monitoring data is needed to determine the risk associated with the prohibited items approaching the work location. The origin and destination of the prohibited items is important to determine risk levels. Also, whether or not the prohibited item carries an actual agricultural pest is crucial in analyzing risk.

Analyses of the monitoring data need to occur at several levels of PPQ. At the work locations, PPQ personnel need to study what the data means and answer the first question for their specific work location. Analysis tools are available to help with these analyses, which are explained in the next subsection. At the same time, PPQ holds risk analysis workshops around the country to introduce risk analysis concepts. At some work locations, teams of PPQ officers and managers form Risk Management Teams to look at monitoring data and other data, which are normally collected at the work location.

At other locations, analyses of monitoring data occur to establish the rates at which quarantined items and agricultural pests are approaching the borders of States, areas of the country, and the United States.

Once baseline rates are well established, PPQ can use the monitoring data as a baseline to answer the second basic question: How effective is the AQI program at managing the risk of introduction of agricultural pests and diseases? Again, each work location must conduct this type of analysis. AQIM provides a framework which work location can use to carry out the analysis.

Analysis Tools

The tool available for analyzing AQI monitoring data is the ANALYSIS program in Epi Info. Using the ANALYSIS program in Epi Info you can look at data entered specifically for your work location. While in Epi Info ANALYSIS, you can select a data analysis program file (*.PGM) that automatically runs a series of Epi Info commands. The program will produce various listings, tables, analysis commands, and explanatory text from data files for a designated pathway. Follow the guidelines on how to load and run data analysis program files beginning on **page 8-22**.

Epi Info ANALYSIS saves the analysis output to a file for viewing and/or printing. The file contains basic information that answer some of the questions to guide data analysis that follow. For questions not answered by running an automatic program, you will need to key in and run various analysis commands. Follow the Epi Info User Guide for Data Analysis-Northern Border-Truck Cargo beginning on **page 8-25** to help you with the analysis commands.

Questions To Guide Data Analysis

1. How many trucks were selected for sampling during the survey period?

   How many actions were required on the trucks sampled?

   How many actions by strata category sampled were there? (Previous data has multiple strata.)

   What is the action approach rate of trucks that require action (number of trucks requiring action divided by total trucks in the sample)?

2. How many pest interceptions (actionable pests) were made from survey samples?

   Pest Approach Rate: What is the rate of pest interceptions in relation to the total sampled number of trucks (number of trucks with actionable pests divided by total trucks in the sample)?

3. Compare the rate of actions required for each month of the survey.

   DISCUSSION

   Are there easily identified trends when the rate of cargo actions transiting the work location are higher?

Are there seasonal trends?

Do higher rates correlate with national or religious holidays, certain types of trucks, cargo, or importers?

4. Generate a listing and frequency of shipments requiring action. Which commodities present the greater risk?

   Which commodities most likely to require action? Where were the agricultural pests found? What is the rate of trucks with smuggled or mismanifested items?

   DISCUSSION:

   How effective is the current tailgate inspection process in detecting pests and/or smuggled cargo?

5. What types of shipments (refrigerated, mixed vegetables, dry containers, empties, cut flowers, express carriers, etc.) require higher rates of action?

   DISCUSSION:

   What selectivity factors are currently used to identify shipments likely to require action?

   What additional selectivity factors would be used to identify shipments likely to require action?

   Do the survey results indicate additional factors that help identify shipments most likely to require action?

6. Using monitoring data, apply the survey results to the cargo universe at the work location to estimate the number of actions required and interceptions likely to transit the work location during the same time the survey period took place.

   How many trucks arrived at the work location during the survey period? Using the action approach rate for trucks requiring action, calculate an estimate of the number of trucks transiting the work location that are likely to require action.

   Using WADS data, how does the estimated number of actions required compare with the reported number of actions taken?

   How many additional actions may have been required during the survey period?

How does the estimated number of actionable pest interceptions compare with the reported number of actionable pests on WADS for truck cargo?

DISCUSSION:

What percentage of resources are dedicated to staffing AQI activities for Northern border truck cargo at the work location?

What is the relative risk of this pathway compared with other pathways in the work location?

Should resources be reallocated among all the pathways in the work location to better address the relative risk of the pathways?

How to Load and Run Data Analysis Program Files

Data analysis program files are meant to provide only listings, tables, and explanatory text about the monitoring data gathered a work locations. The program files are not intended to be used as final analysis tools. The outputs from these program files should raise further questions and discussion by local personnel and risk management committees.

These program files automatically run a series of Epi Info analysis commands. Use the following guidelines to load and run data analysis program files.

1. Determine which data analysis program file (*.PGM) file you will load and run in Epi Info.

   In Epi Info, ANALYSIS, there is a data analysis program file for each fiscal year of data gathered. Look at the table below to identify the file to load and run depending on which fiscal year's data you are analyzing.

If you want to analyze data for:	Then load and run the following Epi Info ANALYSIS data analysis program file (*.PGM)
FY 2001	CGMNBG01.PGM

2. Get ready to run a data analysis program file.
   - **A.** Press [**CAPS LOCK**] (to ensure typing capital letters).
   - **B.** Be sure to start at C:\prompt. Epi Info is a DOS program.
   - **C.** Change to the Epi Info directory. Type **CD EPI6**, then Press [**ENTER**].
   - **D.** Start Epi Info program. Type **EPI6**, then Press [**ENTER**].

E. Wait several seconds, the Main Menu will appear with the word Program highlighted.

F. Press [**P**] (to list Program menu).

G. Press [**A**] (to choose ANALYSIS from Program menu).

H.

If you are running:	Then:
A data program analysis file using Epi Info, ANALYSIS	CONTINUE to **Step 3.**
Further analysis commands using Epi Info	GO to the **Epi Info User Guide for Data AnalysisNorthern Border–Truck Cargo** beginning on **page 8-25**

3. Run the selected data analysis program file (*.PGM) from Step 1.

You should be at the Epi Info ANALYSIS screen. If not, review Step 2.

NOTICE

To leave the analysis mode at any time, Press **F10**

A. At the EPI6 command prompt, Type: RUN filename, where FILENAME is the *.PGM file you selected in Step 1. For example if you are analyzing data gathered in Fiscal Year 2001, then you would enter at the command prompt: **RUN CGMNBG01.PGM**.

Then, Press [**ENTER**].

If you:	Then:
See the following prompt at the bottom of the screen: “Press enter key to pick the records file you want to analyze”	1. Press [ENTER]. A window appears with a listing of *.REC files. 2. GO to **Step B.**
Do not see the prompt stated in the cell above	DO the following 3 steps

i. Type: RUN, then Press [**ENTER**]. A window appears with a list of *.PGM files.

ii. Using the Up (↑) and Down (↓) arrow keys, search and highlight the program file name you want to run (for example, CGMNBG01.PGM), then

Press [**ENTER**].

NOTE: If you cannot locate the file name you are looking for, then contact your local AQIM coordinator. If they are not available, then contact the National AQIM Coordinator.

iii. When the following prompt appears at the bottom of the screen: "Press enter key to pick the records file you want to analyze"

Press [**ENTER**].

Go to **Step B.**

B. Using the Up (↑) and Down (↓) arrow keys, highlight the records file for the desired fiscal year.


Important

The program file (*.PGM) must match the records file (*.REC). When you are sure,

Press [ENTER].

C. You are prompted for a file name where the program will save the output. (An example is given on the screen using the three-letter port code and the date.)

Type **FILENAME**, where FILENAME is the file name you have created to save the program output. Then, Press [**ENTER**].

D. You are prompted to enter the date that is **one day before** the date you want the program analysis to start. (The analysis program analyzes records between two given dates, but does not include the given dates. Therefore, you must enter the dates of the days just before and after the dates you want included in the analysis.)

For example, to analyze Fiscal Year 2001 data, you would enter 09/30/2000 (one day before the beginning of Fiscal Year 2001).

Type the start date following the format (MM/DD/YYYY), where it is one day before the date you want the program analysis to start, then Press [ENTER].

E. You are prompted to enter the date that is one day after the date you want the program analysis to end.

Type the end date following the format (MM/DD/YYYY), where it is **one day after** the date you want the program analysis to end, the Press [**ENTER**].

4. The program will begin analyzing. You will see the program's output scroll quickly on the screen. It is being saved to the file name you specified in **Step C.**
5. The program is finished when the cursor returns to the EPI6> prompt. At this time, you may want to do any of the following:

If you want to:	Then:
View or print the program output file	1. Press [F10] to exit Epi Info. 2. Use a word processing program such as WordPro to view and/or print the file. **NOTE**: The file usually is in the C:\EPI6 directory saved in an ASCII (DOS) text file format.
Run a data analysis program file for another fiscal year's data	Return to Step 1 at the beginning of this subsection to decide which program file to run
Continue with further analysis commands using the Epi Info User Guide for Data Analysis	Go to the **Epi Info User Guide for Data AnalysisNorthern Border–Truck Cargo** beginning on **page 8-25**
Exit Epi Info, ANALYSIS	Press [F10].
Exit Epi Info	Press [F10] twice.

Epi Info User Guide for Data AnalysisNorthern Border–Truck Cargo

When first running analysis commands in Epi Info, thoroughly read through the user guide to become familiar with basic analysis procedures used with the data about AQI monitoring for a specific work location.

Get Ready

1. You should be at the Epi Info, ANALYSIS screen. If not, refer to **Step 2.** getting ready to run a data analysis program file, under How to Load and Run Data Analysis Program Files on **page 8-22**.
2. Press [**F2**] (to list Commands menu).
3. Use the arrow keys to move the cursor to the READ command.
4. Press [**ENTER**] **twice** (to get a list of .REC files that can be analyzed).
5. Use the arrow keys to move cursor to highlight the records **CGMNBG01.REC**.
6. Press [**ENTER**] (to bring the *.REC file you have chosen into the Analysis screen).
7. Press [**F4**] (to browse the data records in the file).

8. Use the arrow keys to look over the data to make sure it has been entered properly during the past month. (In subsequent months, you will want to browse through the entire file to see that all months of data have been properly entered, repeated fields such as workunit are consistently the same.)

   To view only one individual record press [**F4]** again to see the entire record as it was originally entered. If it is necessary to make changes to the record, **note the Epi Info record number in the lower right corner of the screen.**

   If you want to edit or change this record, go to **Edit Records** beginning on **page 8-29**

Analyze Records

9. Press [**F10**] (to return to the main Analysis screen).
10. Press [**F2**] (to see a list of analysis commands).
11. Use the arrow keys to move the cursor to FREQ (frequency) and Press [**ENTER**].
12. Press [**F3**] (to see a list of data variables). To better understand the variables listed, refer to **page 8-30** for a list of data variable translations for the current fiscal year.
13. Use arrow keys to highlight the data variable you wish to know the frequency of.

    Press [**ENTER**] **twice** and you will get a frequency table.

For example: if you want to know which carriers had shipments sampled, move the cursor to CARRIER and press enter twice. You will get a table showing the number of records entered into the database for each carrier sampled in the survey.

14. Explore the database by doing FREQ commands for as many data variables as is logical. By doing this you will begin to understand the survey data and see some patterns in the data.

    For each variable, use the [**F2]** and [**F3]** keys to choose the FREQ command and variable of interest, or you can type the word FREQ and the data variable names directly at the Analysis prompt.

15. To explore graphic commands: (The PIE command is one of several graphics commands which allow you to analyze the variables with graphs. This may make it easier to see patterns in the data and to understand the survey results.)

Press [**F2**] and choose the PIE command with the cursor. Press [ENTER].

Press [**F3**] and select a data variable of interest from your data exploration in the FREQ analysis (**Step 9.-14.**).

Press [**ENTER**] **twice** and you will see a pie chart on your screen which might help you understand a pattern in the data.

For example, if you have chosen the CARRIER variable for a pie graph, then you may see that a larger percentage of samples were taken from one carrier, which may cause you to question the sampling procedures.

See **Appendix H** for procedures for printing graphics while in Epi Info.

To leave the graph screen and return to the main screen, Press: **<ESC>.**

16. Further FREQ exploring.

To see the number and kind items carrying pests from random shipment inspections, Press [**F2**] to list commands.

Highlight FREQ and Press [**ENTER**]. (You will next "tag" more than one data variable to move these variable to the analysis command line.)

Press [**F3**] to list data variables, highlight **CARGOITEM** and "tag" this variable by Pressing: **Shift and the (+)**. A small arrow will appear next to **CARGOITEM**.

Next, highlight the variable **CARGOITE01**, and "tag" it. Do the same for **CARGOITE02**.

The analysis command line should appear:

EPI6> FREQ CARGOITEM CARGOITE01 CARGOITE02

Press [**ENTER**]. The output screen should display counts of items for each of the cargo item data lines for all records. Adding up the counts of the items will provide a category breakdown of the agriculture items carrying actionable pests during random sample inspections.

17. Further exploration. Two other commands (F2 TABLES, F2 SELECT) are very useful to explore the survey data and to begin answering questions you may have after using the FREQ and PIE commands.

For example, if you want to know if truck cargo strata 1 has samples taken from shipments coming from Great Britain, then do the following:

Press [**F2**]. Move cursor to SELECT. Press [ENTER].

Press [**F3**]. Move cursor to SWP.

Press [**ENTER**]. Type = "Y".

The command line will then look like this: EPI6>SELECT SWP="Y"

Press [**ENTER**].

When you run new analysis commands, the analysis will only look at a subset of records where the cargo had solid wood packing (SWP). If you want to get back to the entire set of records, type [**F2**]. Move cursor to SELECT. Press [**ENTER**]**.**

18. To continue working with the subset of records established in Step 17:

Press [**F2**]. Move cursor to FREQ. Press [**ENTER**].

Press [**F3**]. Choose ORIGIN. Press [**ENTER**] **twice**. You will get a table that lists the frequency of sampled records from each country of origin.

Do a PIE ORIGIN analysis command to get a graphic picture of which countries the random shipments are coming from.

19. Press the Up (↑) arrow key to move the command line cursor to the FREQ ORIGIN command.

Type: **\C**. Press [**ENTER**]. The new table will give a statistical analysis with 95 percent confidence intervals.

20. Type on the command line: **TABLES ORIGIN ACTIONPEST**. (Or use the **F2** and **F3** keys to select the TABLES command and the two variables.)

Press [**ENTER**]. You will get a table which shows the frequency that actionable pests are being found in the samples from various origins.

This analysis can be used to further understand the cargo risk.

Edit Records

E1. Press [**F10**] **twice** (to get back to the main EPI6 program menu).

E2. Press [**P**] (to list Program menu).

E3. Press [**N**] (to get to the Edit menu).

E4. Press [**F9**] key (to list .REC files).

E5. Use arrow keys to highlight appropriate .REC file

Press [**ENTER] four** times to get to the data entry screen for this file.

E6. Press [**CONTROL**] **and [F]** at the same time (to find the record which needs editing).

E7. Press [**F2**] and then **type the number** of the record you need to edit.

E8. Press [**ENTER**] (to get to the record you need to edit).

E9. Make corrections to the record, using the Up (↑) and Down (↓) arrow keys to move from field to field.

When finished editing, Press [**F10]**, and answer YES to the question (at the bottom of the screen) that asks to write the edited record to the data file.

Return to the beginning of the user guide on **page 8-25**

Northern Border Truck Cargo Epi Data Translation

Core Data Fields for the Current Fiscal Year

VARIABLE NAME	SCREEN NAME
PORT	Port:
CROSSING	Crossing:
BDRRECNUM	BDRRECNUM:
CARGOTYPE	Cargo Type:
CARGOREFR	Cargo Refrig.:
ENTRYSIZE	Entry Size:
STRATA	Strata: (name of cargo port or pathway strata)
CARGOCATEG	Cargo Category: (Regulated or Unregulated)
DATE	Date:
CONSIGNEE	Consignee:
CARRIER	Carrier:
ORIGIN	Cargo Origin:
ORGNCODE	OrgnCode:
DESTINATIO	Destination:
MA	Manifest MA
MA01	Manifest MA
MA02	Manifest MA
DESCGROUP	Description Group:
CARGOCOUNT	Cargo Count (Num):
CARGOWEIGH	Cargo Weight(KG):
AMTINSP	Amt. Insp (Num):
INSPMETH	Inspection Method:
SWP	Solid Wood Packing (SWP):
SWPTYPE	SWP Type:
SWPINSP	Amount of SWP Inspected %:
BARKONSWP	Bark on SWP:
SWPFUMCERT	SWP Fumigation Certif. or Other Treatment presented
REQACTION	Require Action Beyond Inspection to Reduce Risk?:
REQACTION01	Require Action Beyond Inspection to Reduce Risk?:
USECARGO	1. Intended Use of Cargo:
ACTIONPEST	2. Action Pest: (Actionable Pest Found)
VARIABLE NAME	SCREEN NAME

First Pest Information:

VARIABLE NAME	SCREEN NAME
CARGOITEM	Cargo Item:
PESTID	PestID:
PESTNUM	Pest Intercep. Num:
WFA	Where Found:WFA:
WFA01	WFA:
CONT	Cont:

Second Pest Information:

CARGOITE01	Cargo Item:
PESTID01	PestID:
PESTNUM01	Pest Intercep. Num:
WFA02	Where Found:WFA:
WFA03	WFA:
CONT01	Cont:

Third Pest Information:

CARGOITE02	Cargo Item:
PESTID02	PestID:
PESTNUM02	Pest Intercep. Num:
WFA04	Where Found:WFA:
WFA05	WFA:
CONTMFOUND	3. Contaminant Found?:
MISMANSMUG	4. Agr. Item Mismanifested/Smuggled?:

First Contaminant/Mismanifested or Smuggled Information:

CONTMITEM	Contaminant/Item:
CNT	Cnt:
WGHT	Wght,KG:
PROHIBITED	Prohibited:
WFA06	Where Found: WFA:
WFA07	WFA:
CONT02	Cont: (Continue to next Item Information)
VARIABLE NAME	SCREEN NAME

VARIABLE NAME	SCREEN NAME
Second Contaminant/Mismanifested or Smuggled Information:	
CONTMITE01	Contaminant/Item:
CNT01	Cnt:
WGHT	Wght,KG:
PROHIBIT01	Prohibited:
WFA08	Where Found: WFA:
WFA09	WFA: (Second recording for more than one Where Found location)
MO	MO: (month)